Lab Test Report

A Comprehensive BLI Laboratory Evaluation | JANUARY 2014

ASIA PACIFIC EDITION

Panasonic DP-MB250CX

30 PPM Laser Printer • Copier • Scanner • Fax

BUYERS LABORATORY 2014 BLI RECOMMENDED LAB TESTED

Reliability	Excellent
Administrative Utilities	Very Good
Feedback to Workstations	Very Good
Ease of Network Setup	Good
Print Drivers	Very Good
Scan Functions	Good
Print/Copy Quality	Very Good
Print/Copy Productivity	Very Good
Ease of Use	Good
Feature Set	Good
Security Features	Not Rated
Environmental Features	Not Rated
Toner Yield	Very Good

BLI RECOMMENDATION

The 30-ppm Panasonic DP-MB250CX, an A4-size laser MFP printer, gave a robust overall performance in BLI's two-month lab test and delivered a relatively low cost per page. Designed for use in small businesses and home offices, the DP-MB250CX completed a 25,000-impression durability test with just one misfeed recorded, and no service call required. Featuring all functions as standard (print, copy, scan—colour and black-and-white—and fax), the unit produced very good overall print and copy output. Job stream performance from the GDI driver was the highest among the competitive group, but in other areas of productivity—such as 2:2 duplex copy speed and efficiency—the DP-MB250CX's performance was below average. The unit's multitasking capability does not allow users to program copy jobs ahead. The unit's low energy consumption and very good toner yields will contribute to a low overall TCO. The DP-MB250CX is easy to set up and easy to use from the GDI driver. The Multi-Function Station's scan utility allows administrators to easily program one-touch scan destinations, and the Device Monitor application notifies users of job completion via pop-up alerts. BLI recommends the Panasonic DP-MB250CX for small workgroups with an optimum monthly volume of 2,500 impressions.

Test duration: Two months, including a 25,000-impression durability test.

Manufacturer's maximum monthly duty cycle: Information not available.

Manufacturer's recommended monthly volume: Up to 5,000 impressions.

BLI's recommended monthly volume for optimum performance: 7,000 to 20,000 impressions.

More information on the Panasonic DP-MB250CX is available through bliQ (www.buyerslab.com/bliQ).

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STRENGTHS

- Highly reliable
- Highest job stream efficiency in its class
- Faster than average first-page-out times for all file types tested
- Fastest first copy-out time from the document feeder
- Easy Print utility offers an intuitive means of editing and previewing documents and saving customized settings without the need to navigate through multiple tabs in the GDI driver
- Average tested toner yield exceeded rated specification
- Easy procedure for loading paper; clean process for replacing toner
- Automatic duplexing and toner-save mode help users conserve resources
- Multi-function scan utility allows administrators to program one-touch scan destination buttons

WEAKNESSES

- Below average productivity when copying multiple sets in 2:2 duplex mode
- File size increases when printing multiple collated sets
- Scanning to a USB drive is a slow and non-intuitive process
- Copy reserves are not supported; does not allow copying while the unit is printing; users can't scan a document during output of a copy job
- Entering email destinations at the control panel is cumbersome because users have to press the alphanumeric keypad numerous times
- Lacks support for LDAP integration
- No ability to print from smartphones and mobile devices

TEST RESULTS AND OBSERVATIONS

+, – and ○ represent positive, negative and neutral attributes, respectively.

RELIABILITY

EXCELLENT

+ The Panasonic DP-MB250CX is certified as highly reliable by BLI after completing a 25,000-impression durability test with just one misfeed and no service call required.

Reliability

PMs/Malfunctions	Service Required	Meter Count (Impressions)
Meter Count (Beginning of Test)		0
End of Test Period		25,000
Total Misfeeds/Misfeed Rate	1/Not applicable	
Total Service Calls	0	

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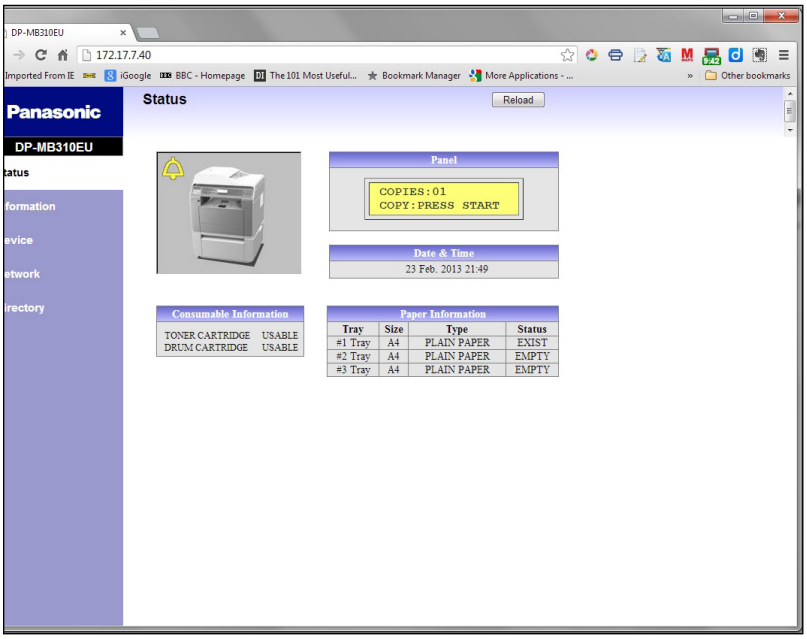
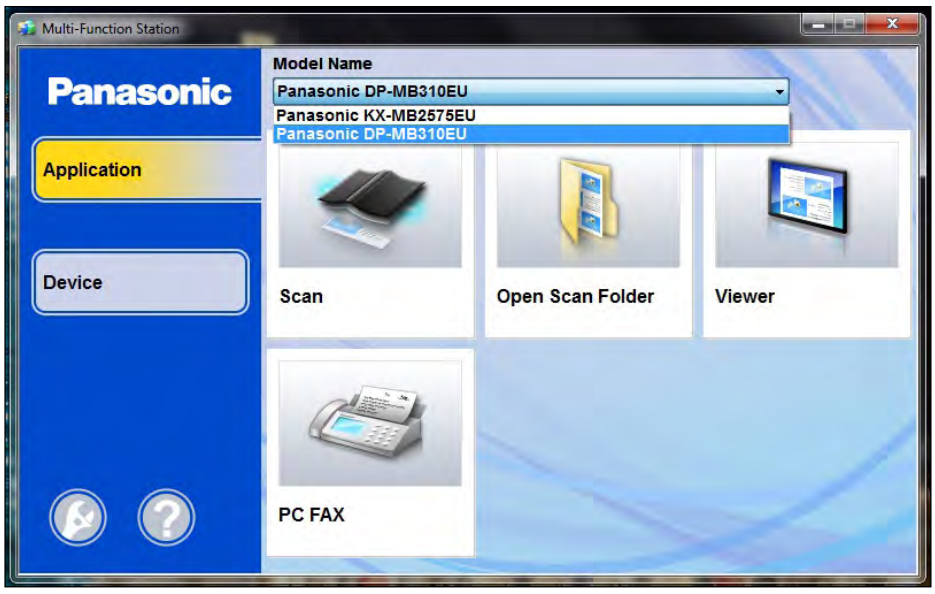
ADMINISTRATIVE UTILITIES

VERY GOOD



Web utility - Status tab

+ The embedded Web utility features five links that provide detailed information about the DP-MB250CX. The Status link displays basic information such as paper and toner information, although the availability of both is only indicated by the terms “EXIST” or “USABLE”. The Device link provides additional information on basic fax, copy, PC print and scan features. The Network link provides LAN, SNMP, Bonjour, SMB, email, IPv6 and FTP features plus USB printing and changing passwords, while the Device configuration link (requires username and password) allows an administrator to change the fax, copy, PC print, etc., features.



Multi-Function Station Application Icons

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+ The Multi-Function Station application menu features four icons. The Scan feature lets administrators or users scan a document to the Viewer application to view or OCR the document, fax a stored document via a PC Fax driver, configure or change some basic settings, (e.g., create up to 10 one-touch email destination buttons, change paper size or copy resolution via Remote Control). The Utilities icon features Device Monitor, which displays toner and paper settings, and a link to register for Readiris Pro 7 software for OCR functionality.

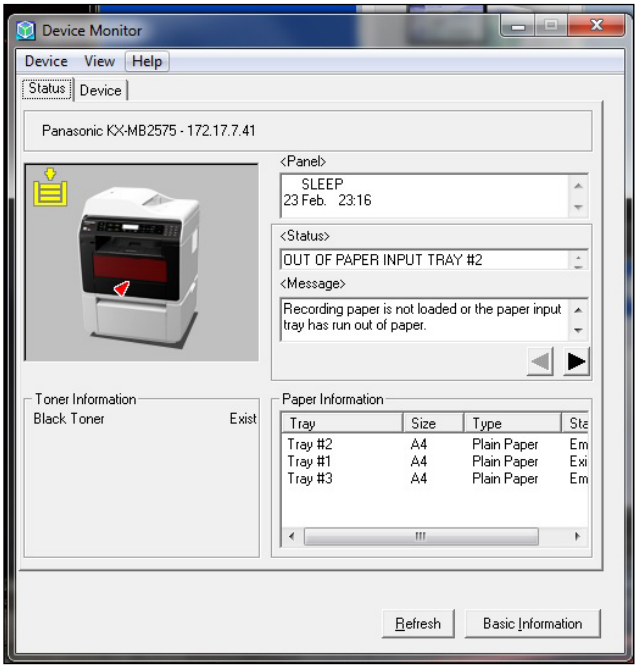
+ The Support Web page, different from the embedded Web utility, directs users to Panasonic's Support site to download drivers and utilities such as Multi-Function Station and Device Monitor.

○ The IP filter utility program allows users to confirm if a duplicate TCP/IP address is in use on the network.

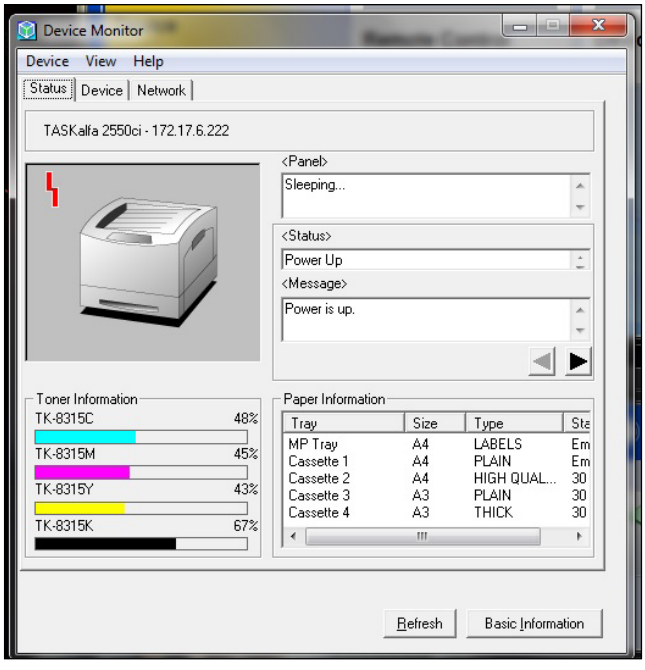
△ FEEDBACK TO WORKSTATIONS

VERY GOOD

+ The Device Monitor pop-up (Status tab) provides a brief status overview and a message. The Advanced tab displays print language and consumable information.



The Device Monitor only provides rudimentary feedback on Panasonic devices, confirming that paper or toner 'Exists' or is 'Usable' but not the remaining levels.



For non-Panasonic devices on the network, the Multi-Function Station Device list has an additional 'network' tab that enables precise quantities of toner or paper to be displayed.

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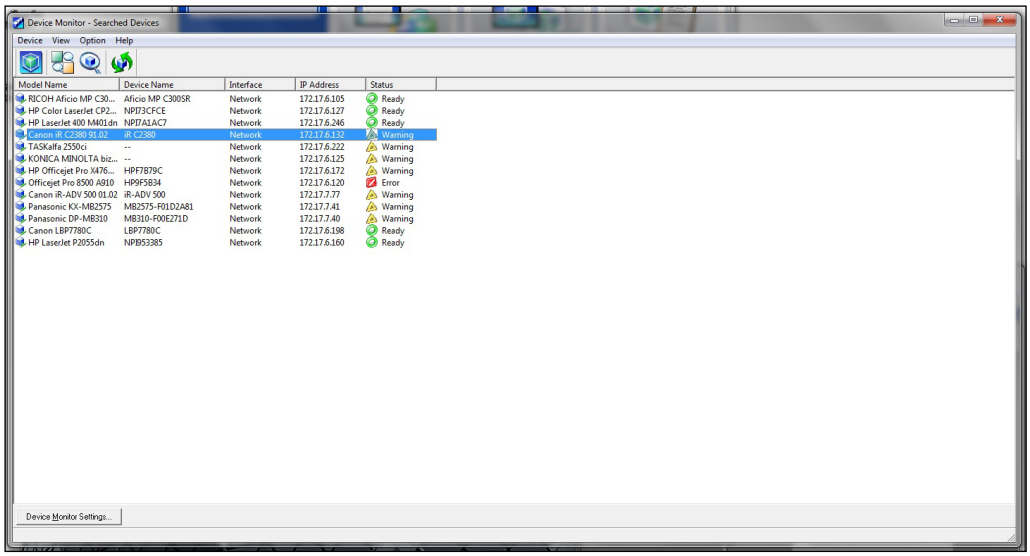
Device Monitor - Searched Devices
Device View Option Help
Model Name Device Name Interface IP Address Status
RICOH Aficio MP C30... Aficio MP C3005R Network 172.17.6.105 Ready
HP Color LaserJet CP2... NPI73CFCE Network 172.17.6.127 Ready
HP LaserJet 400 M401dn NPI7A1AC7 Network 172.17.6.246 Ready
Canon iR C2380 01.02 iR C2380 Network 172.17.6.132 Warning
TASKalfa 2550ci --- Network 172.17.6.222 Warning
KONICA MINOLTA biz... --- Network 172.17.6.125 Warning
HP Officejet Pro X476... HPF7B79C Network 172.17.6.172 Warning
Officejet Pro 8500 A910 HP9F5B34 Network 172.17.6.120 Error
Canon iR-ADV 500 01.02 iR-ADV 500 Network 172.17.7.77 Warning
Panasonic KX-MB2575 MB2575-F01D2A81 Network 172.17.7.41 Warning
Panasonic DP-MB310 MB310-F00E271D Network 172.17.7.40 Warning
Canon LBP7780C LBP7780C Network 172.17.6.198 Ready
HP LaserJet P2055dn NPI953385 Network 172.17.6.160 Ready
Device Monitor Settings...

The Device Monitor utility also provides a list of all discovered Panasonic and non-Panasonic devices, and their status (ready, power save, warning or error).

○ No icon alerts are available in the system tray to alert users of device activity.

○ Although administrators can set up counters to monitor and record job usage, setting these up by scrolling through menus on the small monochrome display is a tedious and "clunky" process. BLI would encourage Panasonic to improve this functionality to make it more suitable for an MPS (Managed Print Services) environment.

+ Administrators can configure email alerts for up to three users to notify them of jams, when the door is open or end-of-life messages.

+ Administrators or users can control Device Monitor settings, including pop-ups and machine beeps, for error occurrence and enabling of remote print job complete notification.

△ EASE OF NETWORK SETUP — GOOD

○ The DP-MB250CX is very easy to unpack and set up out of the box as it ships fully assembled, though Panasonic recommends that two people lift and place it in the desired location. Users then remove the packaging material, insert the toner cartridge into the drum cartridge and slide it into place.

+ The driver CD automatically launches upon insertion in the drive, and users can choose between a typical or custom installation. Eleven clicks are required to install the GDI driver and included software (Device Monitor, Multi-Function Station, Easy Print Utility and user manual) via the typical install; the port is automatically created, and the IP address is assigned using DHCP.

○ Users must use the "Add a Printer Wizard" to install the PCL 6 driver, which was not used during testing.

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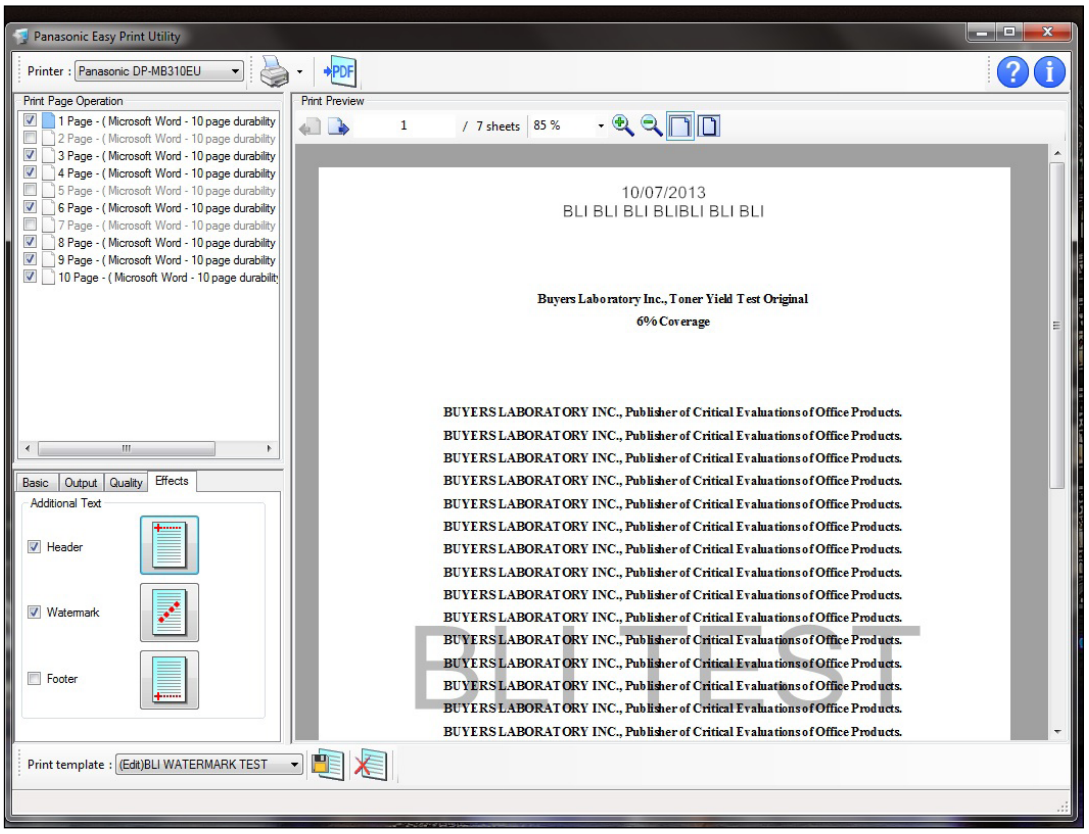
○ Network settings can be easily adjusted remotely via the embedded Web page, but it is very cumbersome from the control panel because technicians had to scroll through various menus using buttons.

PRINT DRIVERS

VERY GOOD

○ The GDI driver supports multiple Windows and the Mac OS X operating systems.

○ In addition to the GDI driver, the installation CD also includes an Easy Print utility which does not have the range of functionality offered by the GDI driver, but offers an intuitive means of editing and previewing documents and saving customized settings without the need to navigate through multiple tabs.


Panasonic Easy Print Utility
Printer : Panasonic DP-MB310EU
Print Page Operation
1 Page - (Microsoft Word - 10 page durability
2 Page - (Microsoft Word - 10 page durability
3 Page - (Microsoft Word - 10 page durability
4 Page - (Microsoft Word - 10 page durability
5 Page - (Microsoft Word - 10 page durability
6 Page - (Microsoft Word - 10 page durability
7 Page - (Microsoft Word - 10 page durability
8 Page - (Microsoft Word - 10 page durability
9 Page - (Microsoft Word - 10 page durability
10 Page - (Microsoft Word - 10 page durabilit
Basic
Output
Quality
Effects
Additional Text
Header
Watermark
Footer
Print Preview
1
/ 7 sheets
85 %
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Print template :
(Edit)BLI WATERMARK TEST

Panasonic PCL printer driver.

+ The preview box in the Easy Print utility allows all pages of a document to be checked before printing commences, which potentially can save on paper and toner. Pages can be selected or deselected (but not reordered) and quality settings including a toner-save mode can be chosen. Users can also select customizable headers, date stamps, watermarks and footers and save them as predefined profiles for reuse. It also offers the option of choosing N-up or booklet printing, and documents can be saved as PDFs. Although not as feature-rich as the GDI driver, BLI analysts were impressed with the intuitive interface of the Easy Print utility and its customizable 'edit and preview' capability.

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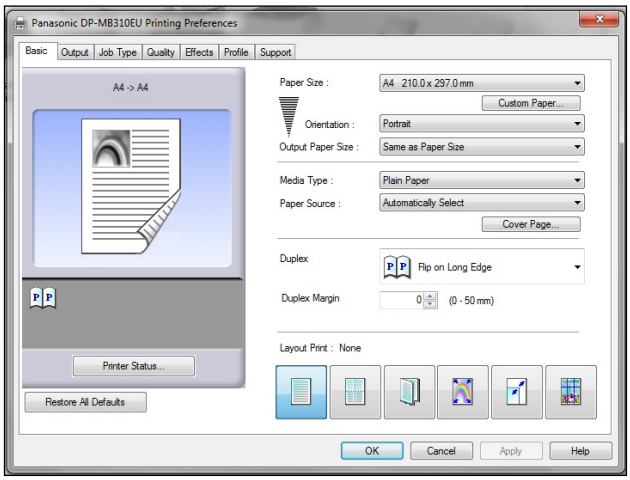

GDI Driver—Basic Tab contains most of the main settings required to initiate print jobs, and useful icons at the bottom of the screen for common layout types.

- Users must install the PCL driver (not used during BLI's testing) via the Windows "Add a Printer" wizard.
- Paper size/source and duplexing are available from the Basic tab of the GDI driver, while quantity and collate are in the Output tab.
- Collation is available from both drivers, but it didn't function in testing. This isn't uncommon as most drivers are written to allow the application settings to override the driver's.
- File size increased when printing multiple collated sets.

Panasonic DP-MB250CX Print Driver Features

Windows XP	PostScript 3	GDI
Auto Feature/Device Detection	Yes	Yes
Booklet Printing	Yes	Yes
Consumables Gauge	Yes (via link to Device Status)	Yes (via link to Device Status)
Collate Sets	Yes*	Yes*
Max Paper Sources per Job	3	3
Mirror Image	No	No
Negative Image	No	No
N-up Printing	2 to 16	2 to 16
Overlay	Yes	Yes
Poster Print (sheets)	1 x 2 2 x 2 3 x 3 4 x 4	1 x 2 2 x 2 3 x 3 4 x 4
Print and Hold	No	No
Proof Print	No	No
Quantity Selection	Up to 999	Up to 999
Reduction/Enlargement	Auto; 25% to 400%	Auto; 25% to 400%

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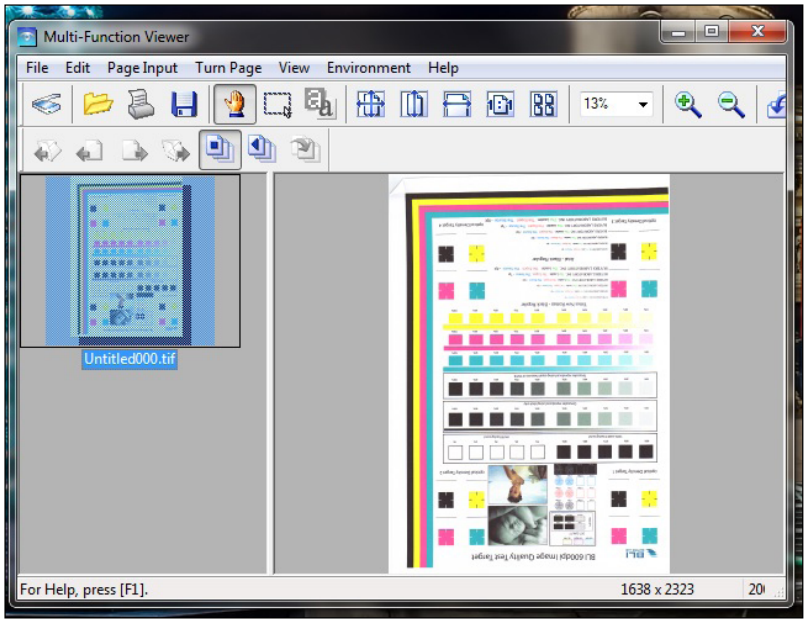
Windows XP	PCL 6	GDI
Resolution Modes	Standard, Fine, Enhanced	Standard, Fine, Enhanced
Save Settings	Yes	Yes
Toner Save	Yes	Yes
Secure Printing	No	No
Watermarks/Custom Watermarks	Yes/Yes	Yes/Yes
Print All Text as Black	No	No

*Although there's a collate selection in the drivers, it did not function in testing; collate must be selected from the Windows print screen within an application for output to be collated. This is not uncommon, as most drivers are written to allow the application settings to override the driver's.

SCAN FUNCTIONS

GOOD

+ The DP-MB250CX includes network scanning as standard, allowing users to scan in colour or black directly to email, desktop and FTP in PDF, JPEG or TIFF formats. The Viewer component of the Multi-Function Station utility enables users to view their scanned documents and access the standard Readiris 7.0 application to perform OCR tasks. TWAIN scanning allows users to scan an image at the device directly into an application such as Adobe Photoshop.



Users can view their scanned documents via the Viewer component in Multi-Function Station.

○ The unit does not support LDAP capability, preventing users from accessing a company's email server from the embedded Web utility or at the device.

— Although the device supports scanning to a USB flash drive, BLI analysts found it to be far from intuitive. Users must use the right arrow key then 'OK' to choose Direct USB

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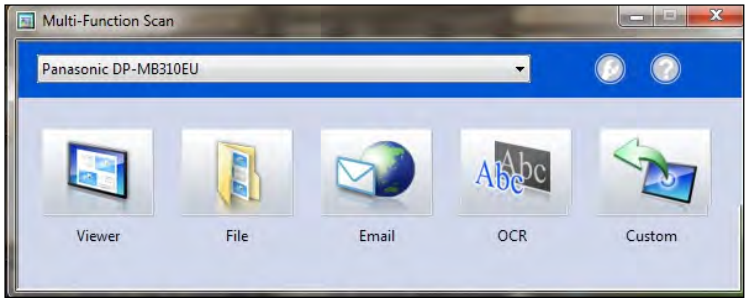
then scroll through a number of menu options to select paper, orientation, simplex/duplex, etc. with no feedback to suggest how printing is then initiated (users must press the Start key). If a document is selected and the Start key is selected there is a wait of several seconds while the display indicates 'Direct Print Loading' before it finally prints. Compared with the vast majority of rival devices the whole process is slow, clunky and non-intuitive.

- Programming email destinations at the control panel via the alphanumeric keypad is also very time consuming, as users may need to press each numeric key multiple times to enter the desired letter. BLI analysts recommend using the embedded Web page to program email addresses instead. Users can also program email shortcuts—preconfigured distribution lists and scan settings—via the embedded Web page to allow for simplified scanning by selecting a numbered shortcut at the control panel.

- Although simplex and duplex scan speeds are slower than average in colour, they are competitive in black.



Users can customize settings using the Scan function in Multi-Function Station.

Tested Scan Speed in IPM | Competitive Average

COLOUR		
1:1	3.9	6.7
1:2	2.4	4.1
BLACK		
1:1	16.7	15.1
1:2	6.0	7.5

Files are scanned at 300 dpi in PDF format. Competitive averages represent the average scan speed for devices in this speed range tested to date.

Scan File Size in KB

PDF	
Black	42
Draft	
Full Colour	**1322**

No compression is offered in either black or colour modes. Testing is conducted with single-page files scanned at 300 dpi in PDF format.

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PRINT QUALITY

VERY GOOD

○ Print output was very good overall using the default settings. Text was rated very good, as characters were fully formed and displayed above average darkness and average sharpness, while smoothness of curves/serifs were deemed average; an average amount of toner overspray was visible, but only when viewed under magnification. Line art was rated very good, as consistency of line thickness was above average, closely spaced fine lines remained distinct, while circles were fully formed and diagonal lines showed no evidence of stair-stepping; again, an average amount of toner overspray was visible when viewed under magnification. Halftone pattern was rated good, with average smoothness and an above average amount of banding. Halftone range was rated very good, being visible from the 10 to 100 percent dot-fill levels with distinct separation between all levels. Solids were rated good, with average darkness and consistency of coverage.

Print Quality

Text	Very Good
Line Art	Very Good
Halftone Pattern	Good
Halftone Range	Very Good
Solids	Good

Print Density

Panasonic DP-MB250CX	Density for units in this class tested to date
1.32 to 1.35	1.15 to 1.76

Measurements are based on four readings corresponding to four different solid black locations on the output. The higher the density reading, the darker the image.

Halftone Range

	Visible halftone range
Panasonic DP-MB250CX	10% to 100%
Typical range for competitive units	3% to 96%

The halftone test target contains blocks of increasing halftone dot-fill levels (1% to 100% in 1% increments).

COPY QUALITY

VERY GOOD

○ Copy output was rated very good overall using the default settings. Text was rated very good, as characters were fully formed and displayed average darkness and above average sharpness, while smoothness of curves/serifs were deemed above average; an above average amount of toner overspray was visible, but only when viewed under magnification. Line art was rated very good, as consistency of line thickness was above average, with closely spaced fine lines that remained distinct, while circles were fully formed and diagonal lines showed no evidence of stair-stepping; again, an average amount of toner overspray was visible when viewed under magnification. Halftone pat-

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tern was rated good, with average smoothness and an above average amount of banding. Halftone range was rated very good, being visible from the 10 to 100 percent dot-fill levels with distinct separation between all levels except those between 70-100% where separation was not so distinct. Solids were rated good, with average darkness and consistency of coverage.

Copy Quality

Text	Very Good
Line Art	Very Good
Halftone Pattern	Good
Halftone Range	Very Good
Solids	Good

Copy Density

Density of original	Panasonic DP-MB250CX	Density for units in this class tested to date
1.69 to 1.74	1.29 to 1.30	1.03 to 1.70

Measurements are based on two readings corresponding to two different solid black locations on the output. The higher the density reading, the darker the image.

Halftone Range

	Visible halftone range
Panasonic DP-MB250CX	15% to 100%
Increments on test original	15%, 29%, 53%, 77%, 83%, 91%, 95% and 100%

The halftone test target contains eight blocks of increasing halftone dot-fill levels.

PRINT/COPY PRODUCTIVITY

VERY GOOD

+ Although its running speed when printing BLI's job stream—designed to replicate the typical workflow in a busy multi-user environment—is competitive, its efficiency (the percentage of its rated speed at which it operates) is the highest in its class tested to date.

+ Productivity when printing multiple sets in simplex mode is competitive for the group, while productivity in duplex mode is well above average, and first-print times for all five test files are considerably faster than average for the group.

○ First-print time from overnight sleep mode is competitive for the group.

○ Productivity when copying multiple sets in 1:1 mode is competitive for the group, faster than average in 1:2 mode, but slower than average in 2:2 mode.

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- First-copy time from the document feeder is the fastest tested to date for the group, but it's slower than average from the platen.

Print Productivity

First-Page Time from Energy-Save Mode | Competitive Average

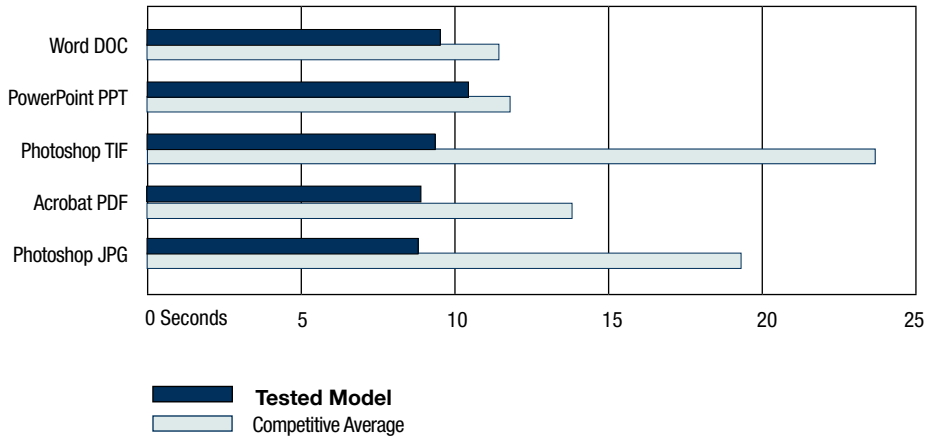
Panasonic DP-MB250CX	21.74
Tested Competitive Average	19.98

Device sits idle overnight. Time in seconds includes RIPping, imaging and delivering a single-page test file to the tray.

First-Page Times by File Types | Competitive Average

Windows XP		Pre- / Post-Raster File Size		Time in Seconds	
Word DOC	Black Text	**114**	55.9	**9.44**	11.21
PowerPoint PPT	Colour Graphic/Text	**99**	1085	**10.44**	11.80
Photoshop TIF	Colour Graphic	**20,480**	309	**9.18**	23.66
Acrobat PDF	Black Graphic/Text	**426**	344	**8.90**	13.81
Photoshop JPG	Colour Graphic	**245**	490	**8.83**	19.11

Speeds tested with the GDI driver at 600 dpi. Time in seconds includes RIPping, imaging and delivering the first page of the test file to the tray. File size in KB.



Average Print Productivity | Competitive Average

	SPEED IN PPM		PERCENT OF RATED SPEED	
1:1	**22.9**	26.6	**76.3**	82.6
1:2	**21.1**	17.4	**70.4**	51.6

Efficiency is tested using a 10-page black document. BLI obtains the overall efficiency for each mode by averaging the efficiency ratings (derived by dividing the tested speed of the device by the rated speed and then multiplying by 100) for each run length (1 and 5 sets). This unit's efficiency was tested using the GDI driver; most competitors were tested with their PCL drivers.

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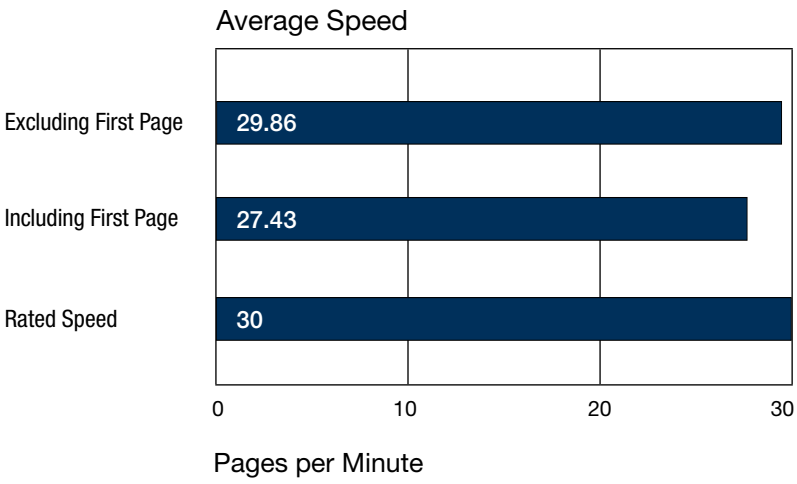
Job Stream | Competitive Average

	SPEED IN PPM		PERCENT OF RATED SPEED	
GDI	PCL	**26.1**	24.6	**87.0**	74.4

BLI's job stream includes Word documents, Outlook email messages, Excel spreadsheets, PowerPoint, HTML and Acrobat PDF files, totalling 19 pages. This test simulates the type of traffic a typical device might experience in a real-world, multi-user environment. All of the files are sent to the device as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Job stream efficiency is determined by the percentage of the rated speed at which the device operates when producing real-world jobs. The closer the rate is to 100%, or if it exceeds 100%, the more efficient the device. This unit's efficiency was tested using the GDI driver; most competitors were tested with their PCL drivers.

BLI's Tested Print Speeds



Print speed is tested using BLI's Monochrome Test Original with 6% page coverage. The test page is printed in a quantity equal to double the vendor's rated print speed for the device in each mode tested (e.g., if the vendor's rated print speed is 20 ppm, 40 pages are printed). Speeds were tested using the GDI driver.

Copy Productivity

Average Copy Productivity | Competitive Average

	SPEED IN PPM		PERCENT OF RATED SPEED	
Copy				
1:1	**22.9**	26.6	**76.3**	82.6
1:2	**21.1**	17.4	**70.4**	51.6

Efficiency is tested using a 10-page document. In print mode, the document is printed using the GDI driver. BLI obtains the overall efficiency for each print mode by averaging the efficiency ratings (derived by dividing the tested speed of the device by the rated speed, and then multiplying by 100) for each run length (1, 5, 10 and 20 sets).

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First-Copy Time in Seconds

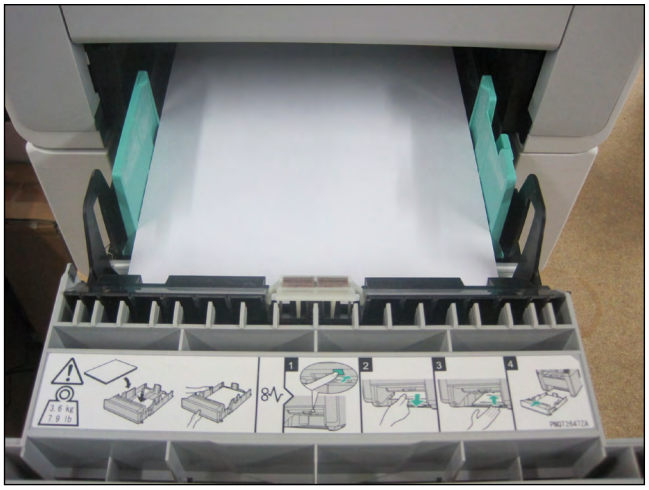
Platen	13.09	11.02
Document Feeder	8.98	13.18

EASE OF USE

GOOD

The DP-MB250CX's control panel features a two-line, 32-character display, as well as multiple hard keys, navigation buttons and an alphanumeric keypad.

- Users navigate the display via buttons to access Scan submenus, which allows users to scan to the default scan application, Viewer, USB host (when the device is connected directly to a PC), file and email addresses. Because LDAP is not supported, BLI analysts noted that scanning to email from the device is a very cumbersome process.



Loading media is straightforward, although users must enter paper size at the control panel when loading paper into the drawer, which is not uncommon for products in this class.

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Technicians noted that replacing the toner cartridge and drum was clean and simple. Users open the unit's right cover and pull a handle to remove both. To replace the toner cartridge, users insert the new one into the drum cartridge.

+ Removing misfeeds (from front or rear locations) is also very easy, although users may have to remove the toner cartridge to access a misfeed.

FEATURE SET

GOOD

○ The DP-MB250CX's standard (64 MB) memory capacity is competitive among A4-size laser/LED monochrome printer MFPs in this speed range and class.

○ The unit features a 50-sheet bypass tray, which is common among devices in this speed range and class.

+ Standard—550 sheets—and maximum—1,100 sheets—paper capacities are above the average for the group.

○ The unit's document feeder capacity of 50 sheets is competitive.

○ Copy features include book copy, image rotate, reduction/enlargement, photo/poster mode, program ahead and 2-in-1 copying.

○ Fax features include a 33.6-Kbps modem with up to MMR compression, up to 300 speed dials, broadcasting up to 20 locations, as well as fax preview of documents via the embedded Web page and up to 400 pages of document memory.

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SECURITY FEATURES

NOT RATED

○ As would be expected in a device in this category there are no security features, although administrators can assign some restrictions using the settings menu.

ENVIRONMENTAL FEATURES

NOT RATED

Specified capable of running 30% post-consumer recycled paper	Yes
Specified capable of running 50% post-consumer recycled paper	Yes
Specified capable of running 100% post-consumer recycled paper	Yes
Instant/Quick Fusing	No
Duplexing	Yes
Toner-save mode	Yes
Energy-save mode/modes	Yes
RoHS compliant	Yes
In-house environmental policy for this unit?	Yes
Explain:	Chemical restrictions
Percent of product made from previous devices (%)	0
Percent of product made from post-consumer materials (%)	0
Percent of product made from pre-consumer materials (%)	0
Percent of product made from bio-based materials (%)	0
Product designed for recycling (easily disassembled, no binding agents)	Yes
Please list types of items that can be recycled	Plastics and metals
Hardware remanufacturing program for this product	No
Toner cartridge recycling program for this product	No
Pre-paid label for return of toner cartridges/bottles for this unit	No
Toner recycling system	No
Ability to program features such as duplexing and auto shut-off over entire fleet	Yes
What tool can be used to do this?	Embedded Web Page and Multi-Function Station
Green packaging materials for the product	Yes
Green packaging materials for its consumables	Yes
Packaging materials used	Cardboard, Polystyrene and Polypropylene
Typically, who is responsible for getting rid of packaging materials after products are shipped to the customer location (e.g., customers, dealers, shippers)?	Dealers
Eco-Label Certifications	No
ENERGY STAR	Yes
Other	NA
Tested energy consumption levels of the device (in watts):	Yes
Ready/Idle	INA
Energy-save	< 13
Sleep mode	INA
During Printing	INA

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How fast can this product be programmed to go into the following modes:	Card reader for user authentication via B'Guard
Ready/Idle	Less than 1 minute
Energy-Save	1 minute
Sleep mode	1 minute
Can the above settings be programmed by a walkup user?	Yes
First-print time out of sleep mode	21.74 seconds
Emissions output from this device for the following substances (in mg/h):	
Carbon Monoxide	INA
Nitrogen Dioxide	INA
Ozone	INA
Styrene	INA
Benzene	INA
TVOC	INA
Dust	INA
Other	INA

INA: Information Not Available
NA: Not applicable

TONER YIELD

VERY GOOD

○ Based on an average of two cartridges, tested toner yield is competitive compared with A4-size monochrome laser/LED printer MFPs in this speed range tested to date.

\+ The average tested toner yield exceeded the rated specification.

Tested Toner Yield (ISO 19752)

Manufacturer's Rated Toner Yield (Impressions)	8,000
COMPETITIVE AVERAGE	7,238
BLI's Tested Yield (Impressions)[1]	8,100
COMPETITIVE AVERAGE	8,084
Net Weight (Grams)	138.1
Manufacturer's Rated Drum Yield (Impressions)[2]	18,000
COMPETITIVE AVERAGE	22,200

[1] Based on BLI's testing of two toner cartridges using the ISO 19752 toner yield test original.

[2] Some devices in the competitive group employ an all-in-one cartridge that includes the toner and drum in a single component. In those cases, rated toner yield is used as the rated drum yield in calculating the average.

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SUPPORTING TEST DATA

Test Environment: The product has been tested in BLI's European test lab, in an environment monitored by two Temp/RH chart recorders, which ensures that typical office conditions are being maintained. All products lab tested by BLI are powered by dedicated circuits that are protected by ESP (Electronic Systems Protection, Inc.) surge protectors to prevent transient power and communication disturbances from affecting equipment under test.

Test Equipment: BLI's dedicated test network in Europe, consisting of Windows 2008 servers, Windows 7 workstations, 10/100/1000BaseTX network switches and CAT5e/6 cabling.

Test Duration: Products are tested for two months, a portion of which consists of a durability test during which the product is run at its manufacturer-rated maximum monthly volume, with daily volumes evenly divided over the course of the test.

Tested Configuration: Panasonic DP-MB250CX base model with optional 500-sheet paper tray.

Test Procedures: The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures. In addition to a number of proprietary test documents, BLI uses an industry standard Katun test original for evaluating black image quality and test suites from Quality Logic to evaluate applications compatibility. In addition to a visual observation, colour print quality is evaluated using a 300 colour patch test target which is read using an EFI ES-1000 colour spectrophotometer and EFI Colour Verifier software. Density of black and colour output is measured using an X-Rite 508 Densitometer. UPM 80gsm multi-purpose paper is used in the tests. Ten percent of test durability volume is conducted using m-real Evolve 100% recycled media. Image quality is tested using UPM 100gsm colour laser paper. Units are tested for compatibility on Windows 7 with Microsoft Office Suite 2010, as well as Adobe Acrobat Reader 10.0.

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Certificate of Reliability

Awarded to

PANASONIC SYSTEM NETWORKS CO., LTD.

for the performance of the

Panasonic DP-MB250CX

in BLI's in-house durability test.

Anthony F. Polifrone
Managing Director

January 2014
Date

This is to certify that when subjected to a 25,000-impression Buyers Lab durability test, the Panasonic DP-MB250CX proved to be a highly reliable product.

BUYERS LABORATORY LLC

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